**National University of Singapore**

# School of Computing

### CP3880: Advanced Technology Attachment Programme (ATAP)

### Student Log Sheet

Please fill in the form diligently and ensure that it is included in each of your project reports for submission.

**Name of Company: \_\_\_\_\_\_JTC Corporation\_\_\_\_\_\_\_\_\_\_\_**

**Have you been briefed on the company safety and security guidelines?**

**Yes / ~~No~~** *(Please delete accordingly)*

|  |  |  |
| --- | --- | --- |
| **Week** | Work Performed | **Supervisor’s Signature and Comment** |
| **1**  **(9 May)** | * Attended Qlik Sense Workshop on 10th May to learn about Qlik Sense Software that I will be using for one of my projects (CNPD Visor Project) * Attended a meeting together with my supervisor Gary How on 11th May to discuss about the project details that I will be doing as well as the timeline of my internship * Attended a Software Systems Group meeting at ST Electronics on 12th May to learn more about their recent as well as upcoming innovations that they have come up with * Played around with Qlik Sense software (read through the tutorial and basics) to get hold of the software before I start using it for one of my projects |  |
| **2** | * Attended a briefing session on 17th May together with Facilities and Estate Management to get to know more about the requirements they want for Lift data (in order to improve on the lift management) * Attended a meeting on 17th May together with the Contracts department to understand more as well as get to know more about the requirements they want for one of the projects (CNPD Visor) * Attended a meeting with APIGEE company on 18th May where they explained their product (API management, analytics and security) to us. * Attended a meeting with MuleSoft company on 20th May where they too explained their product (on API solution) to us. * Researched on ideas for the CHOPE Sensor project. Complied my ideas into a word document. * Researched on API related content to gain more knowledge for the API Gateway project |  |
| **3** | * Attended a meeting with Facilities and Estate Management and OTIS company on 23rd May to discuss about the possible solution for lift management. OTIS described about their EMS Panorama Management (Elevator Management System) product to us. * Had a meeting with my other supervisor Shangru on 23rd May to discuss about the CHOPE Sensor project as well as the Toilet paper roll sensor project. Got introduced to Raspberry Pi, Arduino and ESPresso * Attended a Video Analytics workshop at IDA on 24th May where numerous companies would describe their products that provide video analytics solutions to the numerous government companies were present |  |
| **4** | * Received data from CNPD for the VISOR CNPD project. Cleaned the data and started working on creating the numerous dashboard that CNPD has requested for the project * Had a project update meeting with Roland and my supervisors on 31st May to discuss on the timeline and progress as well as receive feedback * Attended a Speaker Series session on 31st May at the JTC theatrette by Manohar Khiatani about his general management and leadership philosophy * Attended CommunicAsia 2016 event at MBS on 1st June where I learned more about the products and solutions that they showcased relating to the theme “Connecting our Future” * Continued with CNPD Visor project. Improved the Qlik boards. Contacted Cassandra from Contracts Department to clarify my doubts with regards to the project |  |
| **5** | * Attended CogniFEST at IBM on 6th and 7th June where my team and I used IBM Watsons Analytics to create an app that can be used to help in JTC business processes. We used the image recognition module in IBM Watson Analytics app to create an app where it can recognise pictures and tell whether it is a positive or negative picture based on the conditions we set * Attended a Qlik dashboard discussion on the 9th June to present to CNPD department the dashboards that my intern colleague and me has created. We received feedback and comments from them on how to further improve the dashboard. Finally we sent to them the dashboard files for them to interact with. * Worked on Raspberry Pi to create a blinking LED project to learn about the basics of Raspberry Pi |  |
| **6**  **(13 Jun)** | * Worked on Raspberry Pi to start on the motion sensor project. Did Python programming on a programming application called Geany on the Raspberry Pi to code a program to get the motion sensor to work (e.g. to retrieve information whether motion is detected). * Researched on the internet on ways by which I will be able to send information via sms if motion is detected on the motion sensor. * Drafted out a project timeline and milestone plan as well as the project proposals for the 3 projects that my intern colleague and I are doing |  |

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| **7**  **(20 Jun)** | * Worked on ESPresso Lite V2.0, Arduino IDE and HC-SR04 Distance sensor for the motion sensor toilet paper project * Researched and sourced the internet for information on how to work the HC-SR04 sensor with ESPresso Lite V2.0 board * Project update meeting with my supervisors and my intern colleague on 21st June to update on the progress of the project * Attended a meeting with external vendor on 21st June for solutions for smart buildings/ workplaces * Continued working on motion sensor toilet paper project |  |
| **8** | * Continued working on motion sensor toilet paper project * Managed to get the ESPresso Lite V2.0 board, ESP8266, HC-SR04 and Arduino IDE to work together to obtain the sensor information * Managed to send sensor data from ESPresso Lite V2.0 board, ESP8266 to Raspberry Pi via Mosquitto MQTT Broker * Conducted a mass training session on the 29th June for Contracts and Procurement Department (CNPD) on the Qlik software. Taught the users on how to create a simple dashboard as well as how to share the dashboard with colleagues |  |
| **9** | * Continued working on motion sensor toilet paper project * Attended a mass briefing on the 4th of July and 7th July on the usage of VISOR * Attended a meeting on the 5th July together with CNPD Department to discuss on the VISOR dashboard as well as to receive comments and feedback |  |
| **10** | * Deployed the motion sensor onto the toilet paper machine. Currently working on sending the SMS part where the raspberry pi sends SMS to the respective phone numbers * Testing of battery using EM490 Digital Multimeter to see how long the battery can last on the motion sensor – when the meter reads less than 3.3V, it means that the motion sensor will stop working/ producing sensor readings * Masterlist data received from CNPD on the 8th July – using this new updated data to re-create the VISOR dashboard * Attended meeting with CNPD on the 13th July to receive comments and feedback for the VISOR dashboard * Re-designed the VISOR dashboard based on the comments and feedback received and prepare for the final presentation of the dashboard on the 20th July * Attended a short meeting together with my other groupmates interns to discuss on the Interns’ Project – Encouraging Use of Shared Spaces in JTC Summit |  |
| **11** | * Did Financial Evaluation on serval companies with the help of Ivy Sim from Contracts and Procurement Division (CNPD). Granted access to JTC Team Site where I am able to view the Financial documents such as Financial health checklist, Financial Solvency Document and Financial Statements of several companies * Attended a meeting on 19th July for update on the CNPD Visor Qlik Dashboard project together with my supervisors and Deputy director, Roland U * Attended a meeting on 20th July together with CNPD to receive feedback and comments for Masterlist dashboard before the final presentation with CNPD Deputy Director on the 22th July * Completed CNPD Masterlist dashboard on the 21st July and also created an excel document to document on the various dashboards created, the dashboards descriptions as well as the excel source file used * Presented the CNPD Masterlist dashboard to CNPD Deputy Director on the 22nd July * Completed the powerpoint slides for my group’s Interns’ Project – Encouraging Use Of Shared Spaces in JTC Summit |  |
| **12**  **(25th July – 29th July)** | * Continued with Toilet Paper Motion Sensor project * Started working on the meeting room occupancy motion sensor project – working with PIR Sensor, Arduino UNO board and Arduino IDE * Attended JTC Internship Appreciation Ceremony and presented my group’s project on Encouraging The Use of Shared Spaces * Follow up on the final presentation on 22nd July for Qlik VISOR Project – Source for methods to ensure that the path of the data file in Qlik Sense can be accessed and is linked to everyone, request for the rest of the data files to be sent over for the creation of the remaining CNPD dashboards * Managed to retrieve data from a sound sensor (Loudness sensor v0.9b), from Arduino IDE serial monitor, that is connected to Arduino UNO and a Base Shield V0.2 board * Also managed to retrieve data from a PIR sensor, from Arduino IDE serial monitor, that is connected to an Arduino UNO board * Managed to retrieve data from a temperature/ humidity sensor (DHT-22 Temperature/ Humidity sensor) from Arduino IDE serial monitor. |  |

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| **13**  **(1 Aug)** | * Worked on CNPD VISOR Qlik technical documentation as well as motion sensor for toilet paper technical documentation and proposal paper * Attended Alteryx Self-service Data Analytics workshop at SMU on the 4th August * Finalising the Interim report for submission on the 12th August |  |
| **14** | * Finalised 1st draft of CNPD VISOR Qlik technical documentation on the 8th August and sent to my other intern colleague for editing * Attended a meeting with Icon Resources – IDA Bulk Tender on Data Analytics on the 8th August * Cleaned up the Masterlist manual excel file, updated and refined the Masterlist dashboards. Sent the updated Masterlist qvf files, cleaned up version of the Masterlist excel file as well as the Qlik extensions used for the Masterlist dashboards to CNPD as well as my supervisors * Tried out the method of saving the data source file into a specific folder (C:/App/) that can be located in everyone’s laptops via Qlik. Tested out and concluded that it works (e..g if there is a change in the data source file, the newly updated data source file can be re-imported into Qlik and viewed in the dashboards) Screenshot and created powerpoint slides to send to CNPD for reference. |  |
| **15** | * Helped Guo An (from CNPD) to solve several Qlik issues that he faced (e.g. Data loading error, Qlik expression function issues) * Qlik Sharepoint method: Testing of whether saving the data source file in a Sharepoint folder can be located in everyone’s laptop via Qlik. * Qlik Map Extension: Testing of all the Qlik Sense Map extensions from Qlik Branch website. Tested out and concluded that Google Maps extensions on Qlik Sense do not work on Qlik dashboards anymore as Google Map has updated their API such that it requires an API key for the Map to load correctly. The creator of the extensions has not updated their extensions yet and thus the extension failed to load. |  |
| **16** | * Attended LEAP Team building with ITD on the 23rd August where the whole department went out of office for a team building event * Created the baseline dashboard for Masterlist (using August Masterlist excel data sent by CNPD). Sent the baseline dashboard to CNPD. |  |
| **17** | * Listed down the total inventory (equipment used and unused) for the paper towel motion sensor project in a word document. * Attended a meeting on 29th August regarding updates as well as new features available on Qlik v3. Raised a question regarding integration of JTC Sharepoint and Qlik Sense Desktop and received the reply that it is not possible to do so. Thus, the current method for the data file source would be the C drive method. * Helped out at JTC booth during NUS Computing Career fair on 31st August * Had a meeting on 1st September with my supervisor, Gary How, and my other intern colleague to finalise and close off the CNPD Qlik dashboard project. |  |
| **18**  **(5 Sep)** | * Optimised the Masterlist dashboard (e.g. removed all hardcoded expressions, improved the dashboard by adding spaces in between visualisations, adding headers to the visualisations and adding descriptions to the dashboards) and sent to my supervisor on 7th September * Did a quick installation of Qlik Sense V3.0 on CNPD various HODs as well as various staff laptops on 8th September * Discussed with Guo An from CNPD regarding future training sessions for Qlik Sense for CNPD staff * Updated Qlik Technical Specifications based on the initial comments from the review of the initial version (0.1) for Technical Specifications (on 02/09/2016). |  |

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| **19**  **(12 Sep)** | * Started working on presentation slides for October presentation - Decided that for Qlik Project, presentation slides will be done using Qlik Sense Desktop Software while for the motion sensor project, presentation slides will be done using Powerpoint with JTC slides. |  |
| **20** | * Attended a meeting with PRD (Policy and Research Division) on 19th September to discuss on VISOR and Qlik usage * Helped Guo An with creating the dashboard CNPD Divison Meeting\_August 2016.qvf |  |
| **21** | * Contacted Woan Ling from Reclamation Department to arrange a Qlik Sense Training Session on 3rd Oct with the staff at Reclamation Department * Prepared the training agenda and a word document file (guide help book) for the 3rd Oct training session for Reclamation Department * Edited presentation slides for the 6th October final presentation * Prepared the training agenda and a word document file (guide help book) for the 5th Oct training session for CNPD Department |  |
| **22** | * Edited and refined the Qlik presentation slides for Oct 6th presentation * Held a Qlik training session for Reclamation Department on the 3rd October to teach them about Qlik * Added in a section on “Sharing of dashboards” in the word document file (guide help book) for the Qlik training session * Conducted another Qlik training session for CNPD Department on the 5th October * Presented to ITD CIO on the 6th October on the projects that my other intern colleague and I have done – Qlik CNPD and Motion Sensor for Paper Towel |  |
| **23** | * Testing for one of my supervisors, Lillian Ba, on Qlik Sense – whether data can be controlled (e.g. record level data should be disabled due to the confidentiality of the data) * Prepared all relevant final documents e.g. finalised report (Technical Specification V1.0), ATAP Final Report and the documents and files used for the final presentation all into a zip folder to be sent to my supervisor Gary How. * Discussed with one of my supervisors, Gary How, on video ideas to promote the usage of Qlik Sense in JTC |  |
| **24**  **(17 Oct)** | * Assisted Yu Ding on using Qlik Sense (Individual training session) on the 20th October |  |